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California.—12th, 14th, 24th.

Colorado.-14th.

Connecticut.—19th, 30th.

Dakota.-12th, 14th, 18th, 20th, 21st, 24th, 25th, 26th, 30th.

District of Columbia. - 19th.

Florida.-15th to 25th.

Georgia.—15th, 16th, 18th.

Idaho.—24th, 26th.

Illinois.—14th, 16th, 17th, 24th, 26th, 30th.

Indiana.—14th, 18th, 24th to 27th.

Iowa.—2d, 16th, 17th, 25th, 26th, 29th.

Kansas.—17th, 23d, 25th, 28th.

Kentucky.—15th, 17th, 18th.

Maine.—20th, 26th.

Massachusetts.—12th, 18th, 27th. Michigan.—14th, 18th, 24th, 25th, 26th.

Minnesota. -20th, 25th.

Montana. - 21st, 24th, 25th.

Nebraska.—14th to 18th, 20th, 21st, 23d, 25th, 26th.

Nevada.—14th, 16th, 23d, 28th.

New Hampshire.—26th.

New Jersey .- 11th, 19th, 28th.

New York.—18th, 22d, 23d, 27th.

Ohio.—4th, 11th, 17th, 18th, 22d, 26th, 27th.

Oregon.—4th, 13th, 23d.

Pennsylvania.—19th, 21st, 22d, 23d, 24th, 28th. Rhode Island.—12th, 18th, 19th.

South Carolina.—12th, 15th, 19th, 27th.

Tennessee.—18th, 24th, 25th.

Texas.—14th to 17th, 19th to 23d, 25th.

Utah.—14th, 24th.

Vermont.—17th, 26th. Virginia.—1st, 20th, 23d, 26th, 28th, 30th.

Washington Territory.—2d, 16th, 17th, 27th, 28th.

Wisconsin.—14th, 18th, 24th, 28th.

Wyoming.—13th, 16th, 19th, 24th, 29th.

The phases of the moon during October were: last quarter, 1st, 6.23 a. m.; new moon, 8th, 2.25 a. m.; first quarter, 15th, 8.14 p. m.; full moon, 23d, 4.16 a. m.; last quarter, 30th, 12.52 a. m.; perigee, 3d, 6 p. m.; apogee, 16th, 12.18 a. m.; perigee, 28th, 2.36 p. m.

## MIRAGE.

Mirages were observed during the month at the following places:

Webster, Dakota, 6th, 16th.

Salina, Kansas, 15th, 16th, 22d, 25th.

Saint Vincent, Minnesota, 13th.

Marquette, Nebraska, 14th, 15th.

Harvard, Nebraska, 15th.

Riedsville, North Carolina, 5th.

Indianola, Texas, 28th, 29th.

# MISCELLANEOUS PHENOMENA.

## SUN SPOTS.

Prof. David P. Todd, director of the Lawrence Observatory, Amherst, Massachusetts, furnishes the following record of sun spots for October, 1885:

Date— October, 1885.	No, of new,		Disappeared by solar rotation.		Reappeared by solar rotation.		Total No.		Remarks.		
	Gr'ps	Spots	Gr'ps	Spots	Gr'ps	Spots	Gr'ps	Spots			
4, 11 a. m	••••	••••••					4	25‡			
7, 9 a. m		•••••		0			4	3o‡			
9, 12 m	0	0	0	0	0	0	4	251			
I, 10 a. m	0	0	0	0	0	0	4	201			
2, II &. ni	0	0	0	5‡	0	0	3	12‡			
4, 4 p. m	. 0	0			0	0	0	0			
6, ір. т	I	2	0	0	1	2	I	2			
8, 3 p. m	3	35‡	0	0			4	40‡			
2, 9 a. m		30‡					3	65			
3, 2 p. m		15‡	0	0	0	0	4	8o‡			
4, 2 p, m	2	20	1	3	1	5 .	5	95‡			
5, 4 p. m	2	201	0	0	1	15‡	7	115‡			

Faculæ were seen at the time of every observation.

‡ Approximated.

Professor Carpenter, of the Michigan State Agricultural College, of Lansing, reports sun spots during the month of October, as follows:

1st, five groups, twelve spots; 9th, 11.15 a.m., four groups, twenty-three spots; 10th, 11.15 a.m., three groups, forty spots; 14th, 1.15 p. m., none observed; 15th, three groups, twelve spots; 20th, 3.30 p. m., four groups, thirty-five spots; 22d, 2.50 p. m., three groups, forty-two spots; 24th, - p. m., seven groups, fifty-eight spots.

## SUNSETS.

The characteristics of the sky, as indicative of fair or foul weather for the succeeding twenty-four hours, have been observed at all Signal Service stations. Reports from one hundred and seventy-one stations show 5,254 observations to have been made, of which three were reported doubtful; of the remainder, 5,251, there were 4,724, or 90.0 per cent., followed by the expected weather.

# DROUGHT.

Wysox, Bradford county, Pennsylvania: the wells and streams in this vicinity, during the first and second decades of the month, were almost dry, but the heavy rains of the latter part of the month relieved the drought.

Fallsington, Bucks county, Pennsylvania, 31st: many wells

in this vicinity were dry during the month.

Lead Hill, Boone county, Arkansas, 31st: the small streams in this part of the state have dried up or become so low that the supply of water for stock is very poor. The soil is so hard, from the continued drought, that the seeding of wheat has been much retarded.

Indianola, Texas: reports from the surrounding country on the 26th stated that gardens were suffering in consequence of

Tucson, Arizona: pasturage is very poor and the supply of

water for stock very limited at the close of the month.

Fort Grant, Arizona: at the end of the month severe drought prevailed in this part of the territory. Streams have dried up and stock has suffered much on account of scarcity of water. Water for domestic uses is hauled a distance of two miles.

## EARTHQUAKES.

Variety Mills, Nelson county, Virginia: at 11.36 p. m. on the 9th a sharp shock of earthquake was felt at this place. It was accompanied by a rumbling noise, resembling thunder, which gradually died away. A second, but much less noticeable, shock occurred about one hour later.

Dale Enterprise, Rockingham county, Virginia, 9th: a slight shock, which is supposed to have been due to an earthquake, was felt in this and Augusta counties at 11.35 p.m. The earth trembled, and a strange, cracking noise was heard at the time

of the shock.

Lynchburg, Virginia: during the night of the 9-10th two slight but distinct shocks of earthquake were felt here. first shock occurred at 11.35 p. m., and the second at 12.40 a. m. The shocks were preceded by a rumbling noise which seemed to come from the northeast; they were sufficient to cause window-panes to rattle.

Petersburg, Virginia: three distinct shocks of earthquake were felt in this city between 11 p.m. and midnight of the Each shock was preceded by a rumbling sound, sufficiently loud to cause considerable alarm. Windows were shaken and furniture was displaced by the shocks.

Staunton, Virginia: a distinct shock of earthquake, lasting

about thirty seconds, was felt here at 11.40 p.m. on the 9th.

Richmond, Virginia: an earthquake shock was felt in certain parts of the city during the night of the 9-10th. The vibrations were very slight.

The following is an extract from the Washington "Evening Star " of October 10, 1885:

An earthquake shock is reported to have occurred in this city near midnight last night. A gentleman, living on N street, near 12th, states that while reading in his library at 11.42 o'clock he felt a clearly-defined earthquake, the tremor continuing from ten to twenty seconds.

At the Signal Office the observers did not notice any shock, nor did the

registering barometer show any disturbance such as is usual when a shock occurs. No shock was noticed at the Naval Observatory.

Olympia, Washington Territory, 9th: an earthquake shock occurred at 8.00 a. m. The vibration was from south to north. The duration of the shock was less than one minute.

East Portland, Oregon: three shocks of earthquake, each of about one second's duration and separated by an interval of six seconds, occurred between 1 and 2 a. m. of the 10th.

The following is an extract from the report of Earl Flint, M. D., international co-operating observer, Rivas, Nicaragua:

The earthquake of October 11th was more prolonged than that which was felt at Chinendega in 1851. The shock was general throughout western Nicaragua; it was also felt to the eastern part of the axial line, beyond the lake, and along the eastern slope of the main Cordilleras, although it was less severe in that region. Reports from prefects give the greatest force at Leon, Old Chinendega, and Managua. Leon Cathedral was fractured in various places; Laborio church tower was telescoped, and other churches were injured. The government house, barracks, seminary, institute, and bishop's palace were also damaged, and most of the adobe houses lost partition walls. Managua and Chinendega suffered similar losses, though somewhat less. The shock began Chinendega suffered similar losses, though somewhat less. The shock began with a slight and prolonged oscillation, northwest and southeast, and its duration allowed most of the people to reach the streets and yards; but those who had retired, being delayed in opening doors, were bruised by the falling tiles and partition walls. Five deaths occurred at Leon and one at Managua.

The following is an extract from a communication received by the Chief Signal Officer from Mr. John J. de Jongh, C. E., at San José, Costa Rica, Central America:

There was a very strong earthquake on the night of the 11th throughout the Republic of Nicaragua; it caused a great amount of damage in Managua and Leon. I felt the shock at San José at 10.30 p. m.; it was not strong, but was of long duration. The temperature at the time was 60°; barometer (aneroid), 26.77. At about midday of the 11th we had a very strong north wind, which is an unusual occurrence at this season.

San Francisco, California, 16th: a very slight shock of earthquake was felt in this city at 7.45 a.m. It was so slight that the direction of vibration was not ascertained.

Sau Rafael, Marin county, California: a very slight earthquake shock occurred here at 4.50 a. m. of the 16th.

Napa, Napa county, California: there was a light shock of earthquake felt here at about midnight of the 15-16th, and quite a heavy shock occurred at 4.45 a.m. of the 16th. The vibrations were from north to south.

Santa Rosa, Sonoma county, California: three distinct shocks of earthquake were felt here shortly before 5 a.m. of the 16th. The vibrations were northeast and southwest.

The following is an extract from the "Rochester Morning Herald " of October 19, 1885:

SANDERSVILLE, WASHINGTON COUNTY, GEORGIA, 18th.-A shock of earthquake, lasting ten seconds, was felt here this evening.

Frisco, Utah: two light shocks of earthquake occurred at this place between 1 and 2 a.m. on the 26th. The duration of each shock was about three seconds; they were accompanied by a rumbling noise which resembled that caused by a moving train.

## FOREST AND PRAIRIE FIRES.

Frederick, Brown county, Dakota: during the 1st and 2d prairie fires burned over an area of one hundred square miles in an adjoining (McPherson) county, rendering many families 21st; Terre Haute, 14th, 16th homeless. The damage is estimated at \$250,000.

Battleford, Northwest Territory: extensive fires prevailed in the surrounding country on the 16th. Three dwellings, several out-buildings, and a large quantity of hay were destroyed.

Steele, Kidder county, Dakota: a prairie fire on the 16th destroyed considerable property to the west of this place.

Tracy, Lyon county, Minnesota: prairie fires destroyed property, valued at \$7,000, a few miles west of this place on

Cheyenne, Wyoming: reports from Egbert, Laramie county, stated that extensive prairie fires prevailed in that vicinity on the 17th.

Huron, Dakota: five hundred tons of hay were destroyed by a prairie fire in Clay county on the 22d.

Prairie and forest fires have also been reported from the following places:

Bismarck, Dakota, 8th, 9th.

Forts Totten and Yates, Dakota, 10th.

Fort Buford, Dakota, 14th.

Pike's Peak, Colorado, southeast of station on the 15th.

Webster, Dakota, 15th. Fort Sill, Indian Territory, 15th, 16th, 21st, 22d, 27th to 31st.

Fort Reno, Indian Territory, 31st.

Saint Vincent, Minnesota, 1st to 11th, 16th, 17th, 20th, 22d,

Moorhead, Minnesota, 8th.

Poplar River, Montana, 1st, 2d, 3d, 10th.

Fort Assinaboine, Montana, 3d to 10th, 21st, 22d, 23d.

Fort Maginnis, Montana, 19th.

North Platte, Nebraska, 7th, 8th, 9th.

Harvard, Nebraska, 22d.

Cheyenne, Wyoming, 4th.

### INSECTS.

Atlanta, Georgia: grasshoppers, in large numbers, made their appearance in this vicinity on the 13th.

Spartanburg, South Carolina, 31st: grasshoppers, though not so numerous as in the preceding month, were observed in considerable numbers during October.

Oroville, Butte county, California: a large and brilliant meteor was observed eight miles northeast of this place at 7 p. m. on the 26th. It was first observed at an altitude of about 15°, and moving directly upward, it disappeared in the zenith, leaving a bright trail, apparently three hundred yards in length. The flight of the meteor was of about fifteen seconds?

Mr. Arthur Betts, voluntary observer, at Webster, Day county, Dakota, reports the following:

On the 29th, at 4 p. m., a meteor was observed to flash across the northern heavens. It was first observed at an altitude of 30°, and moving slowly in an easterly direction it descended to the horizon, gradually diminishing in size during its flight. The nucleus, when first observed, was apparently as large as the disc of the sun. The sky was clear and the sun shining brightly at the time the meteor was observed. The duration of its flight was about twenty

Mr. P. A. Allen, chief engineer of the Peoria, Decatur and Evansville Railroad, reports having observed a similar phenomenon just after sunset on the same day, at a point about five miles south of Webster.

Harvard, Clay county, Nebraska: a large meteor was observed here at 8.40 p. m. on the 31st, moving across the sky in a northwesterly direction and exploding when at an altitude of 35°. During its flight a hissing noise was heard, and at its explosion a shower of sparks was observed.

Meteors were also observed at the following places:

Dakota.—Webster, 16th.

Florida.—Limona, 1st, 2d, 3d, 5th, 18th, 24th, 25th, 28th; Manatee, 1st, 14th, 16th, 28th.

Illinois.—Charleston, 4th, 27th, 30th; Anna, 27th.

Indiana.-Vevay, seven meteors, of the second magnitude, were noted on the 8th; a brilliant meteor was seen on the

Indian Territory. - Fort Sill, 29th.

Iowa.—Independence, 26th.

Kansas.—Elk Falls, 5th, 9th; Allison, 22d.

Maine.—Buckfield, 27th.

Maryland.—Woodstock, 2d.

Massachusetts.—Rowe, 1st, 6th, 7th, 9th, 11th, 14th. Nebraska.—Yutan, 8th, 9th, 16th; Crete, 13th, 31st.

New Jersey.—Beverly, 1st.

North Carolina.—Reidsville, 2d.

Oregon.—East Portland, 1st to 6th.

South Carolina.—Stateburg, 15th; Spartanburg, 13th.

Virginia.—Fort Myer, 10th, 17th; Dale Enterprise, 13th, 22d, 25th.

Washington Territory.—Dayton, 6th.

Wisconsin.—Embarras, 8th. Wyoming.—Fort Bridger, 21st.

## MIGRATION OF BIRDS.

Geese flying southward .- Montgomery, Alabama, 29th; Lead Hill, Arkansas, 3d; Red Bluff, California, 14th to 17th, 22d: Sacramento, California, 3d to 17th, 28th, 29th; New Haven, Connecticut, 12th; Fort Bennett, Dakota, 2d; Yankton, Dakota, 16th; Forts Sully and Yates, Dakota, 31st; Washington City, District of Columbia, 18th; Boisé City, Idaho, 9th; Cairo, Illinois, 10th; Charleston, Illinois, 27th, 28th, Terre Haute, Indiana, 27th, 30th; Fort Sill, Indian Territory, 20th, 10th, 20th; Salina, Kansas, 2d; Yates Centre, Kansas, 3d, 8th, 19th, 22d,

Salina, Kansas, 2d; Yates Centre, Kansas, 3d, 8th, 19th, 22d,

Salina, Kansas, 2d; Yates Centre, Kansas, 3d, 8th, 19th, 22d,

The maximum and minimum temperatures at stations marked thus (\*) are from readings of other than standard instruments. 23d; Elk Falls, Kansas, 16th; Independence, Kansas, 17th; Fort Scott, Kansas, 22d; Liberty Hill, Louisiana, 24th, 25th, and 26th; Point Pleasant, Louisiana, 8th; Manistique, Michigan, 5th; Mottville, Michigan, 26th to 29th; Port Huron, Michigan, 29th; Moorhead, Minnesota, 13th; Saint Paul, Minnesota, gau, 29th; Moornead, Minnesota, 13th; Saint Paul, Minnesota, 6th; Lamar, Missouri, 2d; Saint Louis, Missouri, 27th; North Platte, Nebraska, 3d; Yutan, Nebraska, 3d, 10th, 16th, 18th, 19th, 21st; Harvard, Nebraska, 2d, 24th, 28th; Omaha, Nebraska, 21st; Humphrey, New York, 18th, 21st; New River Inter, North Carolina, 25th; Tiffin, Ohio, 27th; Garrettsville, Ohio, 18th, Possburg, Omagon, 14th, 21st, Alberta Garrettsville, Ohio, 30th; Roseburg, Oregon, 14th, 31st; Albany, Oregon, 15th, 22d; Chambersburg, Pennsylvania, 9th, 30th; Wellsborough, Pennsylvania, 9th, 17th, 18th, 31st; Block Island, Rhode Island, 8th; Chattanooga, Tennessee, 19th; Memphis, Tennessee, 28th; Indianola, Texas, 3d, 13th, 14th, 16th; Corsicana, Texas, 8th; Brownsville, Texas, 9th; Palestine, Texas, 17th; Bird's Nest, Virginia, 19th; Cape Henry, Virginia, 29th; Embarras, Wisconsin, 5th; Milwaukee, Wisconsin, 27th, 28th.

Geese flying northward.—Mobile, Alabama, 25th; Bismarck,

Dakota, 8th; Guttenberg, Iowa, 25th; Cleveland, Ohio, 29th. Ducks flying southward.—Little Rock, Arkansas, 14th, 21st; Elk Falls, Kansas, 18th; Yates Centre, Kansas, 18th, 31st; Liberty Hill, Louisiana, 13th, 19th; Point Pleasant, Louisiana, 19th; Yutan, Nebraska, 31st; Kitty Hawk, North Carolina, 18th, 24th, 27th; Indianola, Texas, 1st, 3d, 13th, 14th, 16th, 23d, 27th; Cape Heury, Virginia, 12th, 27th, 29th.

Ducks flying northward.—Mottville, Michigan, 27th, 30th.

Cranes flying southward.—Fort Bennett, Dakota, 2d; Fort Sill, Indian Territory, 16th, 20th; Allison, Kansas, 3d, 16th, 27th, 30th, 31st; Salina, Kansas, 2d; Yates Centre, Kansas, 10th; Elk Falls, Kansas, 29th; Point Pleasant, Louisiana, 24th; Harvard, Nebraska, 2d, 5th, 19th.

Brants flying southward.—Fort Buford, Dakota, 11th. 12th: Indianola, Texas, 16th, 29th.

## POLAR BANDS.

Lead Hill, Arkansas, 4th, 21st. Los Angeles, California, 4th. Archer, Florida, 2d, 7th, 20th, 22d. Riley, Illinois, 12th, 30th, 31st. Guttenberg, Iowa, 3d. Ninnescah, Kansas, 15th, 20th, 23d, 26th. Thornville, Michigan, 17th. Escanaba, Michigan, 17th, 18th, 27th. Wauseon, Ohio, 15th, 25th. Toledo, Ohio, 20th. Nashville, Tennessee, 7th, 11th, 24th, 25th, 31st. El Paso, Texas, 9th, 15th. Bainbridge Island, Washington Territory, 15th. Prairie du Chien, Wisconsin, 17th. Fort Bridger, Wyoming, 19th, 25th.

# SAND STORMS.

Fort Yates, Dakota, 4th, 8th. Fort Sill, Indian Territory, 12th. Fort Assinaboine, Montana, 3d.

# WATER-SPOUTS.

The s. s. "Ailsa," J. W. Sansom, commanding, in N. 13° 18', W. 79° 54', passed a water-spout bearing west, two miles distant.

## ERRATA.

On page 19 of the REVIEW for January, 1885, in the table of miscellaneous data, the departure from the normal temperature at Fort Concho, Texas, given as -36°.5, should read -6°.5.

On page 235 of the REVIEW for September, 1885, in the table of miscellaneous data, the altitude of El Paso, Texas, given as 6,764 feet, should read 3,764 feet.

Meteorological record of voluntary observers and Army post surgeons, Octo-ber, 1885.

  -  -		of ot	her th	an stan	dard instruments.				
	Temperature.			!		Temperature.			
Stations.	Maximum.	Inimum.	Minimum. Mean.	Rainfall.	Stations.	Maximum.	Mininum.	Mean.	Rainfall.
	<b>X</b>	<u> =</u> .	<b>×</b>	#		M	<u> </u>	<b>X</b>	<u> </u>
Alabama.   Birmingham *	80	32		Inches	Indiana. Fort Wayne*	o 77	30	• 51.8	Inches 4.90
Greensborough * Mount Vernon B'ks	18 i	42 35?	61.5 64.1	I.37 I.35	Guilford* Jeffersonville	74 78	30 34	51.2 52.5	2.58 4.28
Arizona. McDowell, Fort	ĺ	39	72.3	0.26	Laconia * Lafayette	77	30 30	52.6 48.8	4.50 2.96
Mojave, Fort Tucson	103	42	73.4	trace.	LafayetteLogansport * Mauzy * Spiceland	83 72	30 24	51.3 44.6 48.8	3.68 2.89
Arkansas.	95 86	29	56.0	1.22	Sunman* Terre Haute*	73 76	29 26 34	51.I	2.62
Mount Ida*	86	28	59-5	0.30	Vevay	72 78	32	53.9	2,62
Alcatraz Island	8ó	50 51	56.6 00.3	0.50	Cedar Rapids a * Cedar Rapids b *	72	24 22	45.0 46.0	2.50 I.34
Benicia Barracks Bidwell, Fort	92 86	53 27	63.3 57.6	0.30	Des Moines	73 80	22 23	42.5 48.2	1.14
Cahuenga Valley College City *	IOI	42 28	65.0	0.06	Guttenberg * Humboldt* Independence *	80 76	24 22	46.0 43.7	1.41
Gaston, Fort Mason, Fort Murieta *	71	51	58.6 51.2	0.31 0.42 0.00	Independence * Indianola * Logan *	70 75	27 25	45.2 46.3	1.62 3.35
Oakland * Oroville *	75	35 45 52	59.9 09.2	o.30	Madison, Fort* Manchester	75 78	29	*********	4.20 3.25
Presidio of San F	97	41 46	63.4 57.8	0.06	Monticello Mount Vernon*	74	27 24 27	47.0 45.4 48.1	1.48 2.65 2.20
Sacramento* Salinas * San Rafael *	90 72	30 38	56.2	trace.	Muscatine* Oskaloosa a	80	26	47.6 44.9	2.80
San Rafael * Susanville	94	34		0.70	Oskaloosa b * West Union *	75	36 20	42.7	0.92
Colorado. Lewis, Fort	75 85	17	47.9	0.48	Kansas. Allison #	93	25	49.8	2.31
Lyon, Fort Pueblo	85 81	24 30	51.9 50.2	0.60 0.57	Atchison * Elk Falls*		28 32	50.9	3.75
Connecticut. Bethel		ļ		4-75	Emporia* Fort Scott Independence •	78	28 31	56.0	1.65
Hartford	70	27 32	48.2 51.7	3.97	T.ewronce	22	30 29 34	54.4 51.2	1.79 3.32 2.02
Southington Voluntown*	73 72	27 30	49.2	3.55 5.25	Ninnescah*	71 88	39 26	54.0 54.1	0.04
Dakota. Abr. Lincoln, Fort Meade, Fort	84	13	43.6	0.70	W. Leavenwortn	. 79	25 31	53.8	2.41
Pembina, Fort	73	18 20	48.3 38.6 48.4	0.74 0.35 1.16	Westmoreland* Wyandotte * Yates Centre *	87	24 28	50.0 53.0	5.55 2.86 4.12
Richardton* Sisseton, Fort	79	22 12	48.9 42.6	0.70	Kentucky.		26	50.5	3.00
Sully, Fort	86 80	21	47.7 40.5	0.03	Frankfort	77 75	32 29	53.1 52.7	4.78 4.88
Vermillion	84 83	23 21	48.3 45-3	0.98	Louisiana. Grand Coteau Liberty Hill*	80 76	42	65.7 66.7	0.56 1.80
Yates, Fort	87	8 !	43.9	0.44	Luling Point Pleasant *	80	54 37 40	62.2	0.00
District of Columbia. Distributing Resv'r* Receiving Reserv'r.*		35 37	56.4 55.9	9.57 10.88	Maine. Buckfield		**		3.64
Rock Creek Bridge* West Washington	78	39 37	59.1 57.8	8.77	Cornish * Gardiner Kent's Hill	66 66	28 27	46.4 47.6	3.85 3.94
Florida.	88	44	68.9	4.77	Orono *	70	25 23	45.5 46.5	4.04 5.12
Limona* Manatee	88	50 55		1.95	Preble, Fort	, -	36	50.2	1.31
Mayport Meade, Fort		58 i 56	71.7	5.38 1.19 4.61	Fallston* Great Falls*	75	32 37 32	51.0 53.3 54.0	4.14 7.07 8.23
Saint Augustine, Ft	84	54 46	73.1 69.9 65.0	3.32	McDonogh McHenry, Fort	72	33 38	53.2 57.6	6.38
Georgia.		34	56.8	4.89	Woodstock Massachusetts.	72	30		10.23
Forsyth	82	42 38	61.7 60.8	4.10	Amherst b	80	31 24	49.0 49.1	4.12 3.65
Illinois,	So	36	54.6	1 1	Blue Hill Deerfield	70 78	29 24	48.8 49.5	5.92 6.48
Bunker Hill	77	30 33	53.7 51.6	3.43 4.89 8.52	Pall River*	72 70	32 32 26	54.5 52.1	3.74 4.45
Geneseo		28	50.8	3.24 1.20 4.60	Heath*	70	20 29 30	53·4 51·3	4.06
Mattoon • Peoria* Riley*	75	29 30 24	53.0 52.3 44.8	2.32	New Bedford Princeton Bowe *	70 70	27 20	47.4 45.2	4.66 4.68
Rockford*	70	25 29	45.0 49.6	3.95	Somerset #	76	32 29	53.4	4.34 3.85 4.48
Sandwich South Evanston Sycamore	72	29 25	44.8	3.51	Westborough* Worcester*	78	28 30	51.8 47.5	4.48 4.81
Windsor*	78	25	50.3	4.19	Williamstown	72	26	47.0	